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Corruption: Who pays for the bill?

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Abstract*

This paper intends to study who pays for corruption in Brazil from 2005 to 2011. Politicians may decide to charge the spillovers of corruption at a municipal level through taxes or to charge it to the entire country through voluntary transfers. The used measure of corruption is based on audit reports conducted on randomly selected municipalities from 2005 to 2011.In order to address this question an IV strategy was computed using as instrument for the number of observed cases of corruption the dummy variable of being audited or not. We evaluated the impact of corruption on taxes and on voluntary transfers and concluded that with an increase in the number of observed cases of corruption the first decreases and the latest registers an increase. Therefore, considering all Brazilian municipalities, mayors prefer to spread the bill all over the country than charging it locally.

Keywords: Tax Revenue; Negotiated Transfers; Corruption; Local Government

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1 Introduction

Corruption has been one of the most discussed themes in social sciences. We know its determinants and macroeconomic impacts on growth and development of countries, but we do not know so much about its micro direct impact on people and people's choices. In this paper we evaluate corruption in political terms and, considering that political decisions as a purpose of re-election, our question is: Who is paying for it? Who are politicians charging the bill to?

La Porta et al. (1999) define three main categories of corruption determinants: economical, political and cultural. Ads and DiTella (1999) and Gurger and Shah (2005) present the economical determinants which include the economic development of the country, negatively correlated with the degree of corruption; the degree of marketization, also negatively correlated; and the official development aid and public works which are positively correlated with corruption since the latter frequently emerges whenever there is a close relationship between political and business cycles; Alt and Lassen (2003) and Herzfeld and Weiss (2003) state the political determinants that include the rule of law and political democratization, both negatively correlated with the degree of corruption and the degree of administrative centralization, which is positively correlated; finally, Iwasaki and Suzuki (2010) present empirical evidence that the combination between an egalitarian religious society and market economy transformation policies prevent corruption

According to OECD, corruption costs equal more than 5% of global GDP and The World Bank states that bribes cost over US$ 1 trillion and about 25% of African States GDP is lost in corruption every year. IMF findings indicate that corrupt countries have almost 5% less foreign investment and have 10% (on average) higher business costs

than non-corrupt countries and according to Ugur and Dasgupta (2011) one-unit increase in the perceived corruption index leads to a 0.59 percentage points decrease in the growth rate of per capita income.

There is also another side of the literature that states that although corruption has a negative impact on economic growth, when associated with institutional framework, political governance and regime, it can mitigate costs at an administrative level, making up for red tape and institutional weaknesses. However, in the long-run, these statements lack of data to support that since it has been proved that corruption has a negative impact on governance environment, on the role of law in a country and the legitimacy of institutions and on FDI, as stated above.

The biggest issue with the conducted studies about corruption is identifying and measuring corruption itself. Corruption is hard to capture given its hidden nature and the data used has been based on the perception of corruption without taking into account its externalities. In this paper, we overcome this drawback by using a more precise measure of corruption in Brazil, not based on perception but instead on observed data, after a meticulous identification of corruption and mismanagement occurrences by Finan and Ferraz (2011) and Arvate and Tavares (2014). We use audit reports from Controladoria Geral da União, an anti-corruption program implemented in order to detect and punish corruption in local governments and classified each event as corruption and mismanagement pin-pointing in this way the main areas suffering corruption, the amount of money deviated and controlling for irregularities and losses due to negligence.

Besides using a new measure of corruption, we are interested in evaluating its impact not on a macro level, but instead on a micro and political level. Our interest is to

understand who is paying for corruption. It is true that politicians' decisions are both extremely dependent on people's choices and people's lives is determined by their decisions. Brazil provides an ideal scenario to study these impacts since on a municipal level governments are fully responsible for the provision of public goods and services and also have a large control on some of the taxes people pay. Therefore, it is in our interest to evaluate whether corruption affects or not the tax collection on a municipal level and the amount of funds mayors ask to the Federal and State Governments in order to increase their provision of public goods. According to Ferraz and Finan (2011), corruption is responsible for approximately R$1.5 Billion of losses for local governments, which has to be funded either from local people or the rest of the country.

There is evidence that provision of public goods in Brazil is also correlated with electoral competition. Also, that higher electoral competition increases education spending and decreases political opportunism and government inefficiency, but also politicians rent which increases the supply of public goods and increases the efficiency of taxation methods.[1] Therefore, that decision has to be in line with the expectancy of re-election.

By analyzing all Brazilian municipalities and using an IV strategy, through a more accurate measure of corruption than the usually applied perception, we observed that corruption leads to a decrease in municipal taxes and an increase in voluntary transfers. Nevertheless, the latest leads to a problem that we also try to address: is it a demand response from the Mayor trying to get more funds in order to pay for corruption or is it the Federal Government supplying more even though the money is going to pay for corruption? Finally, we observe that corruption decreases the probability of reelection of

[1] See Arvate (2013), Hecock (2006), Wittman (1995), Beacker (1983), Ferejohn (1986) and Ashworth, Geys, Heyndels and Wille (2010) for studies on public good provision and taxation on an electoral competitive scenario.

the incumbent, although this is not an effect that one observes in all regions of the country.

The remainder of the paper is organized as follows. Section 2 presents a literature review with some political and electoral models. Section 3 provides the institutional background of Brazil, its tax system, its anti-corruption program. We describe the methodology to measure corruption in section 4. Section 5 presents the used data and the constructed variables. The empirical strategy is presented in section 6 and the results on section 7. Section 8 concludes the paper.

2 Literature Review

Departing from the idea that elections serve to promote efficiency, Persson and Tabellini (2000) in their model give the opportunity to the politician to extract rent from public finances for private interest in order to understand how voters react to electoral competition, policy platforms as well as taxes and benefits. The authors base their model in Downs's (1957) study named after him: the Downsian Electoral Competition. There are two candidates whose goal is to maximize an expected exogenous rent, that does not appear in government budget, and reflects how much each one values winning the elections and holding office. In a first moment, the candidates announce their platform simultaneously and in a second moment, the voters choose the preferred candidate that will implement the stated program.

Another reference the authors utilize is the median-voter equilibria proposed by Black (1948) to voting in committees and applied to election by Downs (1957). This theory considers that when voters are divided in what concerns to different fiscal policies, politicians have to decide which type of elector to please. This way, voters choose one party only if their preference over its program is higher than their preferences over the opponent's. If the utility voters gain from the two different platforms is equal, then the probability of voting in one or other candidate is the same, and equals to 50%. This combined with the monotonicity of preferences leads to the conclusion that when the "median voter prefers one platform over the other, at least half of the electorate agrees". So, the candidate's goal is to please the median voter.

If the electoral competition is efficient, the candidates tend to have the same electoral program based on the voter's preferred policies and in equilibrium they do not

extract any positive rent for their private welfare. This equilibrium is efficient to the voters since there is no waste and preserves political honesty.

However, with probabilistic voting model and voters valuing other aspects of the candidates than the policy platform, we are in the presence of inefficient electoral competition (Polo (1998) and J. Svensson (1997)). According to this model, each candidate has a probability of winning the elections. If the electoral program includes high rents extraction, it is attractive to the candidate but it decreases its probability of election. However, contrarily to the previous situation, "a marginal increase in rents does not imply discrete jumps in the probability of winning". This happens because now Persson and Tabellini (2000) consider two groups of voters, namely the "swing voters" who are extremely sensitive to changes in the political platform, as the increasing in rents, and the other voters for whom the electoral program is not the only determinant of voters' choice, but also look to ideological preferences, making the candidates no longer perfect substitutes. Nevertheless, politicians are not capable of identifying the type of voters, which creates electoral uncertainty that weakens electoral competition: the higher the uncertainty, the larger the opportunity to seek rents, as discussed by Polo (1998).

In this model, the provision of public goods in equilibrium is optimal, but as the rents may be positive, it implies that the taxes charged are higher than the optimal amount.

Afterwards, in order to study the electoral accountability, Persson and Tabellini (2000) set the following model: voters gain utility from reelecting the incumbent candidate and, given that the incumbent and the opponent are identical to the voters in all respects, they do not vote in the incumbent only if they want to punish him ex post.

According to the model, it is possible to spend in an optimal way by giving voters the exact amount of utility they require and keep the remaining tax revenue as a rent. He can deviate from this equilibrium by not pleasing the electors, but he will not be re-elected. Therefore, as long as the politician is fulfilled with the moderate rent he gets and the expected future rent from winning the next elections, he will not deviate.

According to the authors and based on Holmstörm (1982) elections have not only the role of selecting among alternative economic policies, nor only to punish incumbents for bad behavior, but also are an incentive to politicians to perform well. Incumbents, mainly, want to transmit a competent and trustworthy image to the electors and this implies a good behavior from them but only in periods close to elections, not necessarily before and after that. However, this strategy might not be the best to the voters once they can benefit from the lower rents but can also be harmed by the policy distortions from the attempt to look a competent politician (Rogoff and Sibert (1998).

Concluding, Persson and Tabellini (2000) state that electoral competition punish corrupt politicians. Ferraz and Finan (2008) prove empirically this theoretical result using the audit reports in Brazil to test the connection between electoral accountability and corruption. Depending on the audits results, the politicians are punished or not. However, this effect is much more pronounced when the local media diffuses the information. They find that where re-election incentives exist, there are significantly lower levels of corruption mainly where the cost of rent extraction is lower and the political competition is higher. Also, if the politician is running for the second term, he is less corrupt than the ones who have shorter politician horizons. According to these authors, there are some factors in which both level of corruption and probability of

reelection depend on, namely asymmetry of information, probability of punishment and mayor's political support.

However, there are evidences in the world of politicians who are proved to be corrupt and are reelected by voters nonetheless. One example of this situation is Isaltino Morais, former mayor of the municipality of Oeiras, Portugal, who is suspect of fraud and money laundering since 2005 and he still won that same year elections and 2009's. In 2013 he was considered guilty on all the charges and has to serve a sentence of two years being also prohibited from re-applying for any political position, albeit trying to. Who won the election of Oeiras in that year was Paulo Vistas, leader of the movement "Isaltino, Oeiras mais à frente", a movement that supports Isaltino and therefore, his conduct.

Ademar Pereira de Barros is another example of reelection after evidences of corruption. He was the intervenor of the city of São Paulo from 1938 until 1941, mayor of the city of São Paulo from 1957 to 1961 and twice governor of the state of São Paulo, from 1947 to 1951 and 1963 until 1966. He was known for the major public constructions in the city, but in 1941 was also suspect of deviations of public funds for private gains, which led to his removal from the politic scene back then. However, he was reelected governor in 1947 and it was in 1954 that the biggest scandals appeared, with the media questioning the origin of his fortune. He was charged guilty in the process "Caso dos Chevrolets" in 1956 by the Justice Court of São Paulo but the Supreme Federal Court cleared him two months later. In 1957 he was again elected mayor of São Paulo and in 1962 governor of the state of São Paulo, his last political role. He was known in the decade of 50 and 60 as the politician who steals but makes ends meet, "rouba, mas faz".

These are not unique cases in the world. Ferraz and Finan (2008) found that accusations of fraud, corruption and other crimes have more impact at a municipal level than in national elections, since "35 percent of federal congressmen and 30 percent of senators are accused of crimes that were committed before taking office". Thus, there are electoral flaws in the system that do not punish corruption and even benefit from it.

Besley and Smart (2007) present a model between the Pigouvian and the Public Choice ones that shows how efficient taxation depends on how close the political system is of either the Pigouvian or the Public Choice. The authors present us a model with two time periods and two types of politicians: the good politician that chooses spending in order to maximize voters welfare and extract no rent or value from public finances to private gains; and the bad politician who chooses policies to maximize the expected discounted rent extracted from government.

The elections, once more, serve not only to select the good and the bad politicians in re-election time but also to provide incentives for them to behave in a good way in the first period in order to be re-elected. The equilibrium re-election allows selecting politicians optimally ex post but it will not provide the efficient degree of ex ante incentives. Because there is incomplete information, the model is based in the Bayesian equilibrium. The authors present us with a backward induction in order to explain the model. In the second period politicians who are in office cannot run again for the same position, therefore they do not fear not to be re-elected again. Still, they have two options of behavior, to be good or to be a bad politician. In the election period, the incumbent and the challenger follow the same strategy, as Persson and Tabellini (2000) explained, and voters base their decision on the performance of the incumbent in the

first period. Three equilibriums emerge from this theory: the pooling, the separating and the hybrid equilibrium.

In the pooling equilibrium, the bad politician chooses to spend a low amount of public finances extracting some rent for himself. This way he becomes indistinguishable from the good politician who spends a larger amount on public spending even though not taking anything for himself.

In the separating equilibrium, the bad incumbent extracts the maximum rent he is able to and is detected by the voters, therefore losing for sure the elections.

Finally, in the hybrid equilibrium the bad incumbent adopts a mixed strategy and extracts a positive amount of rent, thought not the maximum he can. There is a positive probability to be revealed, but this is smaller than one.

When the authors consider the inefficient taxation problem they state that with the increasing inefficiency, the voter's welfare decreases. If the politician is extracting the maximum he can, in separating equilibrium, voters are already losing, but they would prefer this situation than having an inefficient tax system. Inefficiency in the tax system increases the cost of venality. In the pooling and hybrid equilibriums an increase in the tax inefficiency leads to a reduction in the rent seeking. However, if the tax inefficiency raises the marginal cost of public funds it makes the cost of funding public spending larger.

Therefore, an increase in the inefficiency of the tax system makes the pooling and hybrid equilibrium to move to a separating one. With greater inefficiency the size of the government decreases and the rent extractions possibilities are limited, increasing the likelihood of a bad incumbent to extract the maximum he can. The impact of this shift on voter's welfare implies a trade-off between the short-run costs of reduced

punishments and the long-run gains from revealing the bad politicians and their exit from office. If this leads to an increase in the ability of the voter to detect the bad incumbents, then a separating equilibrium increases the welfare of the voters.

This can be either because voters give more weight to the increasing of public goods provision than to the fact that they are subject to corruption and punish politicians for it, therefore internalizing the payment; or they do not feel the cost of corruption directly through, for instance, the raise in taxes.

The latest requires an alternative way to pay for corruption and one of the purposes of this paper is precisely to study whether the cost of corruption is distributed between the voters of that municipality or if it is paid by all citizens in the country.

3 Institutional Background

This study will be made in Brazil, which consists of an extremely appropriate laboratory for it since corruption has been a major institutional flaw in the governmental framework. In the scale of perceived corruption, in 2013, Brazil ranks 72 out of 177 countries and scores 42 out of 100, in a scale from 0 (highly corrupt) to 100(highly transparent), comparatively to the other countries included in this index. However, since 2003 there is a specified program designed to identify and punish cases of corruption, administered by Controladoria Geral da União (CGU). Moreover, since 2010, when political parties and parliament began to be perceived as the most corrupted institutions in Brazil[2], a considerable number of public officials and politicians have been charged and punished for cases of corruption, namely bribery, embezzlement or usage of governmental influence in order to obtain preferential treatment. According to Ferraz and Finan (2011), the municipal-level corruption takes form mainly in frauds in procurement processes, diversion of funds, over-invoicing for goods and services and appropriation of public resources by politicians.

What is also interesting about Brazil is that municipalities have two main financing sources that include taxes and state and federal transfers, one being controlled by the city hall and the other being conditioned by higher-level power, respectively. Municipal tax revenues come mostly from IPTU (Urban Building and Land Tax) and ISSQN (Services Tax), which are determined uniquely by the municipal mayor; and transfers, which can be voluntary or determined by law, might come from the state government or the federal government. Federal government's transfers come from a fund composed by the revenues of the two main federal taxes IRPF and IRPJ (Income

[2] Global Corruption Barometer 2010/2011

Taxes) and IPI (Industrialized Products Tax) and State government's revenues are essentially from ICMS (Commodities Circulation Tax).

Municipalities are responsible for a substantial provision of public goods and services and consume approximately fifteen percent of federal government's revenue, which make local governments more disposed to corruption. Therefore, municipalities are extremely dependent on federal transfers (an average of 65% of the total revenues per municipality in 2002). The audits mentioned above are done over voluntary transfers from the federal government to each municipality.

As opposed to the compulsory transfers, which are determined by law[3], voluntary transfers are financial resources that result from an agreement, an application, a proposal or other similar instrument with the purpose of providing either public services and goods or supporting non-profitable institutions. There are different time-longing agreements that vary between months and years, leading to different fund releasing depending on the duration and nature of the project. The majority of these funds go to three main sectors, namely, Education, Health and Social Development and Fight Against Hunger. Concerning educational programs, the funds are mostly directed to facilities, school material and food distribution. Programs in the health department are mainly channeled to disease control platforms, family health monitoring and support to pharmacy and equipment. Voluntary transfers going to Social Development and Fight Against Hunger are in its vast majority to the program Bolsa Família, which, aiming to reduce poverty, is one of the most important programs for the federal government and even for the country.

[3] Law number 5172/1996; Law Decree number 1881/1981; Complementary Law number 91/1997 and 106/2001.

CGU task consists of auditing randomly chosen municipalities up to five hundred thousands habitants with the purpose of evaluating the usage of federal funds and if they are serving the established purpose. The election of the municipalities to be audited is made through a lottery process held monthly at Caixa Econômica Federal, Brasilia together with national lotteries and attended by representatives of different parties, press and civil society.

In the auditing reports it is checked the regular application of the transferred resources, the compatibility between the project and the execution, the regularity of the registered information and the accomplishment of the established deadlines. Also direct complaints are taken into consideration. The report of each municipality is analyzed by the Tribunal de Contas da União and if irregularities are found, the responsible for the agreement and the intermediary parties have to be warned and the resource transfers suspended. It is demanded an explanation which if not accepted demands the devolution of the value correspondent to the damage. These results are published and are accessible to the population.

In what concerns the electoral system, mayors and councilors are elected simultaneously for a four-year term and the municipal elections and the state and federal ones do not occur in the same time space. Everyone aged above 18 and under 65 who are literate are obliged to vote, therefore creating a substantial pool of voters who have low levels of education. Re-election is possible thus allowing for mayors to run for a second consecutive term, and creating incentives for a cautious behavior in order to be re-elected.

4 Measuring Corruption and Mismanagement

Both the measures of corruption and mismanagement are taken from the CGU reports. These contain the total amount of federal funds audited and the irregularities found by each sector (Education, Health, Social Development and Fight Against Hunger, Sports, Agriculture, etc.) and action (support to food distribution in schools, purchase of medical device, etc.).

Ferraz and Finan (2011) codified the listed irregularities into several categories of corruption and Arvate and Tavares (2014) completed the first classification by codifying also the listed irregularities as mismanagement, if it was the case.[4] Therefore, in order to classify each event from all the reports since 2005 to 2011 as corruption or mismanagement, the next table, constructed by the previous authors was followed:

Table 1: Corruption and Mismanagement Events

0	No irregularity
1	Municipal Health Council: composition
2	Municipal Health Council: activities
3	Municipal Health Council: structure
4	Public tenders: no disclosure
5	Public tenders: irregular invoices
6	Public tenders: company addresses not substantiated
7	Public tenders: documents with different dates
8	Public tenders: unsigned contracts / forged documents
9	Public tenders: public tender directed
10	Public tenders: other problems
11	Over-billing
12	Falsified invoices
13	Unsubstantiated payment
14	Funds diverted to be used for other purposes
15	Funds diverted for health objectives
16	Fund diverted for other, intra-program purposes

[4] Arvate and Tavares (2014) presented empirical evidence that corruption and mismanagement are positively correlated and the absence of mismanagement leads to omitted variable bias over-estimating the impact of corruption on fiscal policy.

17	Non-investment of funds
18	Budgeted targets not met
19	Building work and projects unfinished
20	Precarious installations
21	Shortage of medication
22	Medication stock control
23	Poor service for users
24	Professionals not working appropriate number of hours
25	Incomplete or inadequate documentation
26	Signs, logos and the like not duly displayed
27	Employee training
28	Team composition
29	Maintenance of medication and/or the like
99	Others

Source: Controladoria Geral da União (CGU). Items 5, 6, 8, 9, and 11 through 14 are classified as corruption events. These are almost perfectly in line with Ferraz and Finan (2011). Our measure of "narrow corruption" is close to that used by Brollo, Naccicini, Perotti, and Tabellini (2010). Items 17 through 24, and 27 to 29 are classified as mismanagement. These are in line with Ferraz and Finan (2011) definition of mismanagement, except for 24 and 27, related to the mismanagement of public employees.

By: Arvate and Tavares (2014)

It is important to refer that some of the items in the table above are specific to the Health sector. Here, all sectors were evaluated; consequently some parallelisms were made in order to cover all the other sectors. For instance, food stock control was classified the same way as medication stock control; shortage of scholar material was classified as shortage of medication and so on.

The main sectors are Education, Health and Social Development and Fight Against Hunger. The majority of irregularities found in the programs monitored in the sector of education are related to food and material distribution that do not arrive to its destination or are delivered in a reduced number. It is relatively easy to deviate the resources designated to food since information leaks might exist. For instance, when evaluating if children are receiving daily meals, the information given to the auditors are

from those children who age mostly from 6 to 14 years old, through a non-intensive or specified inquiry. Concerning Health programs, irregularities were typically on lack of medication, non-investment in machinery, undue expenses in wages and holidays and essentially directed public tenders. Finally, on the Social Development and Fight Against Hunger, families who were eligible to the program Bolsa Família were not in the program and families not supposed to receive the program where receiving it, mainly employees of the city hall and mayor's family members.

Measuring corruption and mismanagement following this method is a direct way to measure corruption on public resources that does not depend on the possibly misleading perception of corruption used in the majority of the literature.

5 Data

The data used is at the municipality level and was collected using different sources. The data is composed by all brazilian municipalities from 2005 to 2011 from which 1114 municipalities were audited over the mentioned years. The year of 2012 could not be included since there was a reduced number of municipalities observed in what concerns to CGU reports, the source of data on corruption and mismanagement.

The public finance data used was taken from the Tesouro Nacional, namely the variables used as dependent variables: total agreed transfers; municipal tax revenues which is the summation of the two main taxes imposed municipally, the IPTU (Urban Building and Land Tax) and ISSQN (Services Tax); and the part of released transfer from the total agreed transfer; and the variables used as control: gross domestic product, transfers settled by law and population since these may influence the amount of resources received from the state and federal governments.

The politician and electoral data were taken from Tribunal Superior Eleitoral (TSU), and used to control the probability of reelection and capability of getting more funds from the government. This data includes the party of the Mayor of each municipality and of the President, namely if they belong to the same party; the level of education of the Mayors, if they run a second consecutive time; if they win for a second mandate and gender.

In order to control for the provision of public goods that may influence the result of re-election, three proxies for education, health and social development and fight against hunger were used: the number of enrolled children from the 1st to 8th grade[5] which provision is mainly municipal, infant mortality per 100 thousand inhabitants and

[5] 1st to 8th grade in Brazilian schooling system represents primary and middle school in the US.

the number of beneficiaries of Bolsa Família. The enrollment data was extracted from Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (INEP), infant mortality from Datasus – Ministério da Saúde and data on Bolsa Família form Ipeadata.

In Table 1 we present the summary statistics of the described variables and it is important to notice that both agreed transfers and taxes are major sources of public funding being, on average, higher than the municipal gross domestic product. As some transfers are conditional, it might be odd to have them larger than the gross domestic product. However, the bigger transfers are the ones that last for some years, so the released amount is significantly smaller than the GDP yearly. Also, it can be observed that tax revenues are lower in the north and northeast of Brazil and larger in the south. The same pattern can be observed in agreed transfers and in transfers determined by law. But when evaluating the weight of these on the GDP, the northeast receives more and the south receives the least. The most populated municipalities, on average, are in the southeast of the country and the less are on the south, which is also the region that has the highest average of municipal gross domestic product. It is also in the southeast that the average of detected corruption events is the reduced and the northeast has the highest mean.

6 Empirical Strategy

Our hypothesis is that when the municipalities are applying for the negotiated transfers, they not only have a softer budget constraint due to the resources obtained by the federal government, but the politicians are also choosing in the first place the way to pay for corruption. In this context, we try to evaluate how politicians decide to pay de corruption bill: if they decide to spread it trough all country by covering the gap with voluntary state and federal transfers; or just to charge it to municipal citizens through municipal taxes. We start by studying whether corruption has or not an impact on voluntary transfers and tax revenues. Since our goal is to evaluate this effect across municipalities and time, it was used a Panel Regression.

However, problems of endogeneity namely simultaneous causality may arise between voluntary transfers and observed corruption cases. As a result, in order to eliminate these we proceeded with an Instrumental Variable method in which the instrumented variable is the number of observed cases of corruption and the instrument is the dummy variable of the municipality being audited or not. This consists of a good instrument since it is totally exogenous given that the municipalities audited were selected through a random procedure.

It is important to notice that an assumption is being made. We assume that if municipalities were not audited, there is no way of detecting corruption, therefore the cases of observed corruption is zero, meaning that there is no other way to detect directly corruption unless the CGU reports it. The dummy variable Audited assumes the value 1 for those municipalities that where audited in year t in that point of time and from that year on in order to account for time and decision lags, and assumes the value

zero if the municipality was not audited and if it was it is assumed zero for the years before the audits.

The goal is to compare two groups: the group of municipalities that were audited and caught as corrupt and those not audited without any information of corruption.

Consequently, the first stage regression for evaluating the impact of corruption on total voluntary transfers is defined by:

$$C_{it} = \propto_0 + \propto_1 \text{Audited}_{i,t} + \propto_2 M_{i,t} + \gamma X_{i,t} + u_{i,t} \quad (1)$$

and the second stage regression:

$$\text{Total Voluntary Transfers}_{it} = \beta_0 + \beta_1 \hat{C}_{i,t} + \beta_2 M_{i,t} + \pi X_{i,t} + e_{i,t} \quad (2)$$

And for the impact of corruption on municipal taxes:

$$\text{Municipal Tax Revenues}_{it} = \partial_0 + \partial_1 \hat{C}_{i,t} + \partial_2 M_{i,t} + \eta X_{i,t} + v_{i,t} \quad (3)$$

where $t = \{2005, \ldots, 2011\}$ and i is the municipality.

$C_{t,i}$ is the number of observed events of corruption per municipality per year, $M_{t,i}$ is the number of events of mismanagement per municipality per year and $X_{t,i}$ is the vector of control variables. The control variables are the transfers municipalities receive defined by law, population and GDP. We controlled also for the possibility of the Mayor and the President to belong to the same party because that might influence the capability of getting transfers due to personal and political relation. Among the control variables are also the provision of public goods in education, health and SDFH proxy by the school enrollment from the 1st to the 8th grade, infant mortality and number of Bolsa Família beneficiaries; and the mayor's level of education and gender. A dummy variable for the year 2008 was included once it is the year of election in our sample, once in election year the behavior of the incumbent might change, mainly in what

concerns to public spending. Although the political related variables do not control for this dependent variable, they will be important controls when testing the re-election; therefore, in order to make the closest analysis possible between the two questions, these variables were also included here. It is important to notice that its presence does not influence the final result.

$\hat{C}_{t,i}$ is the predicted value of the number of observed corruption events from the first stage regression and finally, $u_{t,i}$, $e_{t,i}$ and $v_{t,i}$ are the disturbance terms. Notice that there are characteristics that differ across municipalities that are unobservable. In order for them not to affect our analysis, fixed effects were used.

7 Empirical Results

7.1 Main Results

In this section, we present the main findings following the described methodology. Our first question was whether the mayor decided to internalize the cost of corruption through taxes or charge it to the whole country via voluntary transfers.

In what concerns the effect of corruption in municipal taxes (Table 2), an increase in one observed case of corruption leads to a decrease of 2.563 thousand Brazilian Reais, on average, in all Brazil. Note that it is an extremely strong effect that is verified in all regions of the country being particularly high to the southeast and the south where the increase of observed corruption events reduces taxes around 8 thousand Brazilian Reais. Although it is a strong effect, it is a reliable one since, as mentioned before, the strategy used was through an Instrumental Variable in order to eliminate causality. Also in Table 2 it is possible to see that the chosen instrument, to be audited or not, is statistically significant and the F-statistic leads us to the non-rejection of the selected model.

According to our Downsian model, the mayor takes decisions in order to satisfy the median-voter, therefore as it is his decision to increase or decrease tax rates, it is reasonable to interpret this result as a demand from the people. This implies that when people observe corruption, they do not let the politician increase taxes to pay for it, but instead they demand its decrease in order to be compensated for the stealing.

This result follows the presented literature in the sense that politicians are rational and they know that an increase in taxes will expose them easily as that people know that they are being taken money from and do not see that money applied in the municipality;

therefore increasing the probability of uncovering of the politician and consequently his punishment through non re-election.

When evaluating the impact of observed corruption on Voluntary Agreed Transfers the effect is significant and positive, but not as strong as on taxes, as shown in Table 3. An increase in one observed case of corruption leads to an increase of 0.361 thousand Brazilian Reais, on average, of voluntary transfers. However it is not a result witnessed in all Brazil and in the North and Northeast municipalities corruption appears to have no impact on voluntary transfers. This is not an intuitive result since the northeast is where more cases of corruption are observed, but it can be explained based on the already high amount of transfers both agreed and by law that those municipalities receive. In the center-east and southeast municipalities the effect of one more observed case of corruption is the increase in 1.340 thousands of Brazilian Reais.

These results follow our supposition that when in the presence of corruption, the electorate and consequently the mayors prefer to pay the spillover of corruptions for all country through voluntary transfers instead of charging the bill locally. This follows Persson and Tabellini (2000), in the sense that voters prefer that politicians extract more for themselves than having an increasing in the tax inefficiency. This way the electorate is able to control more corruption and the incumbent himself has fewer incentives to do it.

7.2 Discussion of Results

As mentioned before, an IV strategy was designed and applied to eliminate simultaneous causality, in order to confirm that it was eliminated we regressed agreed transfers on corruption and Table 4 shows the expected result.

Remember that our first goal in this paper is to evaluate how mayors choose to pay for corruption: if spreading its costs all over the country though voluntary transfers or by increasing municipal taxes charging the bill to the municipals. However, a problem arises when evaluating the impact of corruption on transfers. It is important to notice that voluntary transfers have a supply and demand process behind them. Meaning: if it is the federal government blocking or increasing the transfers according to corruption or if it is the decision of the mayor to ask for more or to decrease the demand of transfers. This way, we will also evaluate the impact of corruption events on the ratio between the released transfer in relation to the total agreed value. If this ratio is affected by corruption, it consists in an evidence of being a supply response, once it is the federal government that releases or not the transfer on the years following the agreement; if not, then it might be considered as an evidence of being a demand choice. We used the following regression:

$$\left(\frac{\text{Released Voluntary Transfers}_{it}}{\text{Agreed Voluntary Transfers}}\right)_{it} = \theta_0 + \theta_1 \hat{C}_{i,t} + \theta_2 M_{i,t} + \phi X_{i,t} + z_{i,t} \quad (4)$$

where $z_{i,t}$ is the disturbance term.

The results are presented in Table 5 and we found that the effect of corruption on the considered ratio is not statistically significant. Although this is not a conclusive result neither a final one, it is a lead for our demand/supply problem and when looking into-the Brazilian context, the impact of corruption on voluntary transfers seems to be a demand answer from the municipality given that the Federal Government is not answering to the increase of corruption through the amount of voluntary transfers that is released across the years.

However, when studying this effect by region, the results are statistically significant for all regions except for Southeast municipalities. There is a negative effect of corruption on the ratio of released transfers and total agreed transfers, which leads us to a supply answer of the Federal Government punishing the observed corruption though cuts on the transfers.

In order to confirm previous empirical results on our data, we addressed the political question of re-election since this is the main goal of the incumbents when preparing the second mandate. Notice that not all mayors run for a second mandate and others cannot run again because they are already in the second mandate. It would be important to access the reason why mayors decide not to run for a second mandate, once it can be correlated with the fact that the politician is corrupted and he knows that his chances to win are reduced. However, such information is not observable. However, we did control for some relevant characteristics such as the level of education of the mayor and if its party is the same as the president. Other control variables were the provision of public goods, since the electorate might prefer a mayor that provides more public goods even if corrupt than over one that provides less public goods and is clean (the mentioned "rouba mas faz"). In order to keep a close comparison between the two questions, population, GDP and law transfers were also included as control variables.

Therefore, the interest estimation was an IV Probit, following the same rational than before:

$$\mathrm{P(reelection)} = \varphi_0 + \varphi_1 \hat{C}_{i,t} + \varphi_2 M_{i,t} + \varphi_{it}\text{Total Voluntary Transfers}_{it} + \chi X_{i,t} + r_{i,t} \quad (5)$$

The results in Table 6 point out the expected outcome: overall, when evaluating all municipalities in Brazil, the incumbent is penalized by corruption and his probability

of reelection decreases when corruption increases, a result in line with Ferraz and Finan (2008).

This result is partially in line with the literature in the sense that they promote efficiency, as stated in Persson and Tabellini (2000), leading to less rent extraction from the politicians and to an improvement in voters' welfare. Polo (1998) and J. Svensson (1997) explain that high rent extraction decreases probability of reelection, meaning that increasing corruption leads to less probability of reelection in order to punish the politician and give them incentives to perform well, Holmstörm (1982).

However, when analyzing by region, this is observed only in the municipalities in the Southeast and the South of Brazil, also with a negative sign. This was expected, since there is less corruption in those regions and they are the richest in Brazil as well as the more socially developed, allowing not only for less corruption but also for more intolerance to it. Meaning that for municipalities in the North, Northeast and Center-East of Brazil, there are electoral flaws and corruption is not punished, a finding also present in Ferraz and Finan (2008). Also, these regions are the most taxed what, according to Persson and Tabellini (2000), may lead to a trade-off between more corruption but less taxes. However, according to our results politicians do not benefit from it in what concerns to re-election.

Concluding, in the Brazilian regions where corruption has its lowest levels, politicians are punished though less probability of reelection compared with those who are less corrupt; However, is those municipalities that are not only more corrupt but also poorer, election is not a punishment source, probably because the electorate prefers the ideology "rouba mas faz", given priority to the provision of public good and being less demanding in what concerns to good politics.

8 Conclusions

This paper focuses on the decision on financing corruption by mayors in Brazil between 2005 and 2011. Municipal governments have two sources of financing: tax charged to the municipals and transfers negotiated with federal and state governments. It was the purpose of this paper to find whether the corrupt mayors paid corruption with tax money or with transfers.

An IV strategy was used in order to eliminate simultaneous causality, so corruption was instrumented by a dummy variable that assumed the value 1 if municipalities had been audited and 0 otherwise. The audited municipalities were randomly chosen across the years thus being a completely exogenous instrument that is highly correlated with the number of observed cases of corruption.

We found out that taxes decrease and transfers increase in the presence of corruption when evaluating all Brazilian municipalities together. However, when observing the municipalities regionally, this effect is lost in the North and the Northeast in what concerns voluntary transfers. Taxes, in turn, are reduced strongly in all regions. Therefore, mayors opt for spreading the cost of corruption for all country by asking for more transfers form the Federal Government instead of charging them exclusively to the municipality through taxes.

However it is clear that transfers increase with corruption, we cannot guarantee from which part the decision is taken. Meaning that we cannot guarantee that it s the electorate and consequently the mayor demanding for more voluntary transfers in order to spread the spillover of corruption for all country or if it is a supply answer from the Federal Government. We tried to address this question by regression corruption on the proportion of money released from the complete agreed transfer; For all Brazilian

municipalities there seems to be no impact leading us to a demand answer from the mayors by trying to charge the bill of corruption by all country; However, when evaluating this relation by region, the majority of them registers a decrease in this ratio with the increasing of corruption, what, in turn, points to a supply answer by the Federal Government, perhaps to punish the corrupt municipalities.

Finally, considering all municipalities in Brazil, the probability of reelection also decreased with corruption, a result in line with the literature; However, when analyzing regionally, only the South and the Southeast regions are punishing the corrupt incumbents, showing us a non-efficient election, as pointed out by Ferraz and Finan (2011).

For future research, it would be interesting to evaluate whether the impact of corruption on voluntary transfers is a supply or demand response.

9 References

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10 Appendix

Table 1. Summary Statistics - Panel A

	Percentage of observations with dummy variable=1					
Dummy Variable = 1 if the incumbent won the second consecutive term	32.76%	2.36%	10.63%	2.24%	10.60%	6.94%
	[0.469]	[0.455]	[0.469]	[0.447]	[0.478]	[0.468]
Dummy Variable = 1 if the President and the Mayor belong to the same party	8.88%	1.13%	1.91%	0.61%	3.16%	2.07%
	[0.285]	[0.347]	[0.236]	[0.263]	[0.307]	[0.296]
Dummy Variable=1 if the Mayor completed a superior degree	35.37%	1.52%	9.26%	2.13%	9.63%	6.76%
	[0.478]	[0.416]	[0.473]	[0.462]	[0.485]	[0.484]
Dummy Variable=1 if the Mayor completed High School	27.54%	2.13%	7.52%	1.99%	5.74%	5.12%
	[0.447]	[0.463]	[0.447]	[0.453]	[0.418]	[0.450]
Dummy Variable=1 if the Mayor completed the 8th grade	9.00%	0.84%	2.09%	0.73%	2.04%	1.53%
	[0.287]	[0.329]	[0.266]	[0.309]	[0.272]	[0.278]
Dummy Variable=1 if the Mayor has no education	8.95%	0.68%	1.85%	0.44%	2.45%	1.46%
	[0.286]	[0.298]	[0.251]	[0.244]	[0.295]	[0.272]
Dummy Variable=1 if the Municipality was audited	10.88%	15.17%	12.62%	11.22%	8.99%	9.13%
	[0.109]	[0.359]	[0.332]	[0.316]	[0.286]	[0.288]
Dummy Variable=1 if the Mayor is female	7.06%	8.64%	9.55%	5.62%	5.88%	4.80%
	[0.256]	[0.281]	[0.294]	[0.230]	[0.235]	[0.214]

Note: The number of observations is presented in brakets. Variables' standard deviation is presented in square brackets.

Table 1. Summary Statistics - Panel B

	Mean					
Variables Names	All Municipalities	North Region	Northeast Region	Center-East Region	Southeast Region	South Region
Total Agreed Transfers (100000R$)	*5.887 (37048)*	*7.640 (2794)*	*4.174 (11587)*	*8.796 (3052)*	*8.200 (11366)*	*3.436 (8249)*
	[27.335]	*[929.852]*	*[821.202]*	*[721.977]*	*[37.501]*	*[10.241]*
Ratio of Released Transfers and Agreed Transfers	*0.971 (25511)*	*0.640 (1949)*	*0.629 (8438)*	*0.671 (2270)*	*1.775 (6959)*	*0.734 (5895)*
	[11.626]	*[0.373]*	*[0.367]*	*[0.364]*	*[22.233]*	*[0.346]*
Gross Domestic Product (100000R$)	*5.282881 (38841)*	*3.5096 (3143)*	*2.262 (12542)*	*3.560 (3164)*	*10.222 (11676)*	*423000.8 (8316)*
	[57.952]	*[21.22]*	*[13.939]*	*[13.189]*	*[102.00]*	*[20.096]*
Municipal Tax Revenues (IPTU+ISSQN) (100000R$)	*65.409 (38850)*	*28.243 (3143)*	*21.691 (12551)*	*33.072 (3164)*	*151.389 (11676)*	*37.023 (8316)*
	[1354.24]	*[203.884]*	*[230.175]*	*[251.735]*	*[2436.99]*	*[308.281]*
Transfers settled by Law (100000R$)	*326.566 (37048)*	*306.104 (2794)*	*264.368 (11587)*	*255.098 (3052)*	*484.196 (11366)*	*230.115 (8249)*
	[1658.242]	*[929.852]*	*[821.202]*	*[721.977]*	*[2749.204]*	*[672.784]*
Total Agreed Transfers over Gross Domestic Product	*4.094 (37043)*	*5.635 (2794)*	*4.907 (11582)*	*4.549 (3052)*	*4.001 (11366)*	*2.389 (8249)*
	[15.695]	*[11.894]*	*[26.046]*	*[7.943]*	*[6.610]*	*[4.192]*
Municipal Tax Revenues over Gross Domestic Product	*7.066 (38841)*	*5.135 (3143)*	*9.477 (12542)*	*5.004 (3164)*	*6.703 (11676)*	*5.451 (8316)*
	[131.625]	*[12.396]*	*[230.958]*	*[7.726]*	*[9.620]*	*[15.799]*
Transfers settled by Law over Gross Domestic Product	*201.330 (37043)*	*185.249 (2794)*	*315.343 (11582)*	*143.516 (3052)*	*155.67 (11366)*	*131.003 (8249)*
	[793.052]	*[95.847]*	*[1403.787]*	*[87.69]*	*[99.167]*	*[103.4694]*
Enrollment from the kindergarden to 8th grade	*4295.95 (38850)*	*5406.891 (3143)*	*4625.869 (12551)*	*3372.979 (3164)*	*4713.264 (11676)*	*3143.378 (8316)*
	[13451.45]	*[10432.14]*	*[7080.846]*	*[5818.401]*	*[22201.89]*	*[4590.625]*
Infant Mortality per 100 thousand inhabitants	*9.229 (38850)*	*13.718 (3143)*	*9.530 (12551)*	*8.341245 (3164)*	*9.381 (11676)*	*7.204 (8316)*
	[23.884]	*[38.934]*	*[28.731]*	*[18.048]*	*[20.02702]*	*[12.139]*
Number of Bolsa Familia beneficiaries	*2035.92 (38839)*	*2542 (3143)*	*3201.304 (12543)*	*1150.284 (3161)*	*1736.362 (11676)*	*844.133 (8316)*
	[6012.924]	*[6034.961]*	*[7223.707]*	*[2557.324]*	*[6846.05]*	*[2029.982]*
Population	*33314.5 (37697)*	*33714.24 (2910)*	*29402.17 (11947)*	*23869.76 (3093)*	*47518.39 (11470)*	*22667.07 (8277)*
	[197477.1]	*[113784.4]*	*[110963.6]*	*[80282.1]*	*[324790]*	*[79112.27]*
Number of Corruption Events	*0.327 (38850)*	*0.462 (3143)*	*0.592 (12551)*	*0.280 (3164)*	*0.140 (11676)*	*0.156 (8316)*
	[2.574]	*[2.737]*	*[3.859]*	*[1.985]*	*[1.188]*	*[1.404]*
Number of Mismanagement Events	*0.551 (38850)*	*0.792 (3143)*	*0.818 (12551)*	*0.557 (3164)*	*0.331 (11676)*	*0.362 (8316)*
	[3.760]	*[4.528]*	*[4.993]*	*[3.475]*	*[2.434]*	*[2.745]*

Table 2: The effects of corruption on municipal taxes

	Municipal Taxes					
	Second-Stage Results					
	All Municipalities	North Region	Northeast Region	Center-East Region	Southeast Region	South Region
Number of Observed Corruption Events	*-2.563***	*-3.029***	*-2.116***	*-3.376***	*-7.780**	*-8.275***
	(0.792)	*(0.875)*	*(0.228)*	*(0.921)*	*(4.635)*	*(1.068)*
Number of Observations	*37,039*	*2,794*	*11,581*	*3,049*	*11,366*	*8,249*
	First-Stage Results					
	Number of Observed Corruption events					
The municipality was audited (Yes, dummy==1)	4.139***	*4.490***	*6.435***	*3.572***	*2.041***	*2.263***
	(0.075)	*(0.235)*	*(0.183)*	*(0.196)*	*(0.068)*	*(0.101)*
F-Statistic	*308.47***	*37.18***	*125.19***	*36.05***	*91.24***	*52.93***
Fixed Effects	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

Notes: This table reports the impact of corruption on Municipal Taxes. The control variables include, Gross Domestid Product and Transfers settled by Law (in thousands), Population, Enrollment from the kindergarden to 8th grades, Infant Mortality per 100 thousand inhabitants, Number of Bolsa Família beneficiares and The Number of Observed Mismanagement Events. There are also dummies included: Dummy1 = 1 if the President and the Mayor belong to the same party; and Dummy=1 if the year is 2008. The standard deviations are presented in brackets. Significantly different than zero at 99(***), 95(**) and 90(*) percent confidence.

Table 3: The effects of corruption on voluntary transfers

	Total Voluntary Transfers					
	Second-Stage Results					
	All Municipalities	North Region	Northeast Region	Center-East Region	Southeast Region	South Region
Number of Observed Corruption Events	*0.361***	*-0.010*	*-0.010*	*1.341**	*1.340**	*0.864****
	(0.126)	*(0.090)*	*(0.090)*	*(0.694)*	*(0.694)*	*(0.177)*
Number of Observations	*37,039*	*2,794*	*11,581*	*3,049*	*11,366*	*8,249*
	First-Stage Results					
	Number of Observed Corruption events					
The municipality was audited (Yes, dummy==1)	*4.139****	*4.490****	*6.435****	*3.572****	*2.041****	*2.263****
	(0.075)	*(0.235)*	*(0.183)*	*(0.196)*	*(0.068)*	*(0.101)*
F-Statistic	*308.47****	*37.18****	*125.19****	*36.05****	*91.24****	*52.93****
Fixed Effects	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

Notes: This table reports the impact of corruption on Voluntary Transfers. The control variables include, Gross Domestid Product and Transfers settled by Law (in thousands), Population, Enrollment from the kindergarden to 8th grades, Infant Mortality per 100 thousand inhabitants, Number of Bolsa Família beneficiares and The Number of Observed Mismanagement Events. There are also dummies included: Dummy1 = 1 if the President and the Mayor belong to the same party; and Dummy=1 if the year is 2008. The standard deviations are presented in brackets. Significantly different than zero at 99(***), 95(**) and 90(*) percent confidence.

Table 4: The effects of voluntary transfers on corruption

	Total Voluntary Transfers					
	All Municipalities	North Region	Northeast Region	Center-East Region	Southeast Region	South Region
Number of Observed Corruption Events	*-0.001*	*-0.003*	*-0.003*	*0.000*	*-0.000*	*-0.004*
	(0.001)	*(0.003)*	*(0.003)*	*(0.002)*	*(0.001)*	*(0.003)*
Number of Observations	*37,039*	*2,794*	*11,581*	*3,049*	*11,366*	*8,249*
Fixed Effects	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

Notes: This table reports the impact of Voluntary Transfers on corruption. The control variables include, Gross Domestid Product and Transfers settled by Law (in thousands), Population, Enrollment from the kindergarden to 8th grades, Infant Mortality per 100 thousand inhabitants, Number of Bolsa Família beneficiares and The Number of Observed Mismanagement Events. There are also dummies included: Dummy1 = 1 if the President and the Mayor belong to the same party; and Dummy=1 if the year is 2008. The standard deviations are presented in brackets. Significantly different than zero at 99(***), 95(**) and 90(*) percent confidence.

Table 5: The effects of corruption on the ratio between the released amount of transfers and total agreed transfers

	Ratio between the released amount of transfers and total agreed transfers					
	Second-Stage Results					
	All Municipalities	North Region	Northeast Region	Center-East Region	Southeast Region	South Region
Number of Observed Corruption Events	*0.008*	*-0.044****	*-0.028****	*-0.063****	*0.388*	*-0.067****
	(0.079)	*(0.007)*	*(0.003)*	*(0.012)*	*(0.561)*	*(0.011)*
Number of Observations	*24,706*	*1,797*	*8,011*	*2,218*	*6,829*	*5,851*
	First-Stage Results					
	Number of Observed Corruption events					
The municipality was audited (Yes, dummy==1)	4.139***	*4.490****	*6.435****	*3.572****	*2.041****	*2.263****
	(0.075)	*(0.235)*	*(0.183)*	*(0.196)*	*(0.068)*	*(0.101)*
F-Statistic	*308.47****	*37.18****	*125.19****	*36.05****	*91.24****	*52.93****
Fixed Effects	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

Notes: This table reports the impact of corruption on the Ratio between the released amount of transfers and total agreed transfers. The control variables include, Gross Domestid Product and Transfers settled by Law (in thousands), Population, Enrollment from the kindergarden to 8th grades, Infant Mortality per 100 thousand inhabitants, Number of Bolsa Família beneficiares and The Number of Observed Mismanagement Events. There are also dummies included: Dummy1 = 1 if the President and the Mayor belong to the same party; and Dummy=1 if the year is 2008. The standard deviations are presented in brackets. Significantly different than zero at 99(***), 95(**) and 90(*) percent confidence.

Table 6: The effects of corruption on the probability of reelection

	Total Voluntary Transfers					
	Second-Stage Results					
	All Municipalities	North Region	Northeast Region	Center-East Region	Southeast Region	South Region
Number of Observed Corruption Events	*-0.047***	*-0.074*	*0.017*	*-0.020*	*-0.233***	*-0.146**
	(0.016)	*(0.050)*	*(0.016)*	*(0.105)*	*(0.072)*	*(0.087)*
Number of Observations	*37,039*	*2,794*	*11,581*	*3,049*	*11,366*	*8,249*
	First-Stage Results					
	Number of Observed Corruption events					
The municipality was audited (Yes, dummy==1)	*4.139***	*4.490***	*6.435***	*3.572***	*2.041***	*2.263***
	(0.075)	*(0.235)*	*(0.183)*	*(0.196)*	*(0.068)*	*(0.101)*
F-Statistic	*308.47***	*37.18***	*125.19***	*36.05***	*91.24***	*52.93***
Fixed Effects	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

Notes: This table reports the impact of corruption on the probability of reelection. The control variables include, Gross Domestid Product and Transfers settled by Law (in thousands), Population, Enrollment from the kindergarden to 8th grades, Infant Mortality per 100 thousand inhabitants, Number of Bolsa Família beneficiares and The Number of Observed Mismanagement Events. There are also dummies included: Dummy = 1 if the President and the Mayor belong to the same party; Dummy=1 if the year is 2008; Dummy=1 if the mayor has a superior degree; Dummy=1 if the mayor has completed the High Schol; Dummy=1 if the Mayor has completed the 8th grande; Dummy=1 if none of the previous. The standard deviations are presented in brackets. Significantly different than zero at 99(***), 95(**) and 90(*) percent confidence.